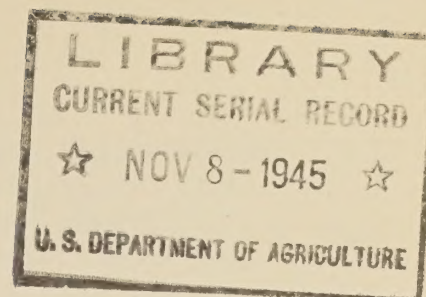


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UNITED STATES DEPARTMENT OF AGRICULTURE
Division of Program Surveys



FARMERS' PRODUCTION PLANS IN 1944

PART III

MACHINERY AS A FACTOR IN FARM PRODUCTION PLANS

Two-fifths of the farmers were unable to buy either farm machinery, repair parts, or equipment and supplies they wanted, in 1943. Unavailability of machinery was reported by 25 percent of the farmers.

Serious crop losses in 1943 due to lack of machinery were reported by ten percent of the farmers. About half of these farmers thought these losses could have been avoided through more custom work and exchange of machinery.

Nearly ten percent of the farmers said they are holding down some part of their 1944 production on account of machinery and equipment problems.

Custom work with machinery was practiced widely in 1943; about 25 percent of the farmers did custom work on other farms, and 60 percent hired custom work done.

Control of machinery distribution was criticized by 17 percent of the farmers.

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Study 87 - III.

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The basic sample was chosen to represent all of the farm operators in the United States with the exception of share croppers in the southern states. These farmers were selected from 73 counties distributed geographically over the country. This report is based upon a total of 1444 interviews obtained during the period from March 7 to April 4, 1944. A detailed statement of the sample may be obtained upon request.

Machinery as a Factor in Farm Production Plans

Expectations of machinery shortages in 1942, and again in 1943, were general throughout this country. Shortages of machinery repair parts, of fencing and building materials, and of other equipment and supplies were also considered to be limiting factors to war-time agricultural production. And yet, in both 1942 and 1943 farmers prepared the ground, seeded, cultivated, and harvested, two of the largest volumes of agricultural production ever recorded.

As spring planting begins again several questions are foremost in the minds of those responsible for seeing that the Nation and its Allies are well fed. Will American farmers continue in 1944 to produce as well as they did in 1942 and 1943? Or, will losses occur because of unplanted acreages, or because of crops produced and not harvested on account of too little machinery, not enough repair parts or mechanics, or insufficient gasoline and rubber, or other equipment and supplies? Do the farmers know what they can rely upon in the way of machinery and equipment supplies? To what extent will production plans be influenced by their experience of the last two years in getting machinery and related production goods?

The results of this study will help to clarify the problems involved in making provisions for the crop harvest, and will be of use as fall and spring plans are made for 1945 production.

I. Experiences in Obtaining Machinery

A total of 1,444 farmers reported their experiences in 1943 in buying machinery, repair parts and services, fencing and building materials, and other equipment and supplies, as follows:

41 percent were unsuccessful in getting one or more items they tried to buy;

59 percent were successful in getting all items they tried to buy.

About seven percent of those who were successful in buying the items listed reported delay in getting them.

There is no way of telling from the survey the extent of the needs, or wants, of those who were successful and of those who were unsuccessful in getting what they tried to buy. In the first place failure to get all of the gasoline requested might be reported as an unsuccessful attempt, just as failure to get a farm tractor would be so reported. Furthermore, there is no way of gauging exactly what constituted an attempt to buy a machine or a piece of equipment. For this reason it

is possible that some of the results shown here represent more nearly farmers' wishes to buy machinery than their absolute needs from a full production standpoint. Although the survey does not show the extent to which farmers were fully equipped with machinery in 1943, it is entirely logical to suggest that those farmers in real need of more items of machinery and supplies would have more opportunities for reporting unsuccessful attempts.

On the other hand, nearly 60 percent of the farmers reporting attempts to buy apparently got what they wanted, and may be supposed to be well equipped for production. The extent to which the others were handicapped in their production efforts will be indicated later in this report.

1. Items that were hard to get in 1943

Unsuccessful attempts to buy farm machinery were reported more often than for any other group of items (Table 1).

Fencing and building supplies were also relatively hard to get in 1943 compared with repair parts and other farm equipment and supplies. Only five percent of all farmers reported inability to get mechanics' services at some time in the year.

Machinery - Tractors were the most often mentioned machine that farmers were unable to buy in the desired volume. This survey suggests that if there had been no limit in the supply farmers probably would have bought 250,000 to 300,000 more tractors than they got. The 1944 program calls for the manufacture of about 155,000 wheel tractors. Tillage machines such as plows, disc harrows, and cultivators were also wanted by many more farmers than could get them. Various kinds of planting equipment, and harvesting machines such as combines and binders, fell considerably short of supplying farmers' wants, and many more mowers and rakes were wanted than could be obtained. Farmers indicated their inability to get all they wanted of numerous other machines and tools, such as sprayers, manure spreaders, hay loaders, hay balers, threshers, gas engines and electric motors, cream separators and milking machines.

Repair parts of many kinds were mentioned as having been applied for but not obtained. In no case, however, did any very large group of farmers fail to get what was wanted. In fact, 89 percent of all farmers reported that they were successful in getting parts or did not apply for any. Of those who were unsuccessful in getting the parts requested, repairs for tractors, plows, binders, mowers, combines, and crop planters, were mentioned most frequently. Tractors led the list with 2.2 percent of all farmers reporting unsuccessful attempts to get repair parts. As not all of the farmers owned tractors the percentage of actual tractor owners who were unsuccessful in getting repair parts would

Table 1. Farmers Unable to Buy Machinery, Repair Parts, Equipment and Supplies, and Mechanics' Services

Item	Percentage of all Farmers	Percentage of Farmers Reporting Unable to Buy
	Percent	Percent*
Farm machinery	25	58
Repair parts	11	25
Fencing and building supplies	15	36
Other equipment and supplies	11	26
Mechanics' services	5	11
Number of farmers	1444	641

* This column totals more than 100 percent as some farmers reported that they were unable to obtain more than one item.

Table 2. Fencing and Building Supplies that Farmers were Unable to Buy in 1943

Item	Percentage of All Farmers	Percentage of Farmers Who were Unable to Buy Machinery, Repair Parts, Equipment and Supplies, and Mechanics' Services
	Percent	Percent
<u>Supplies not Obtained:</u>		
Fencing supplies	10.2	22.9
Roofing supplies	2.8	6.5
Lumber supplies	2.4	5.4
General building supplies	.7	1.7
Wire, electric	.3	.7
Unidentified supplies	1.1	2.6
Farmers who applied success- fully or did not apply at all	84.3	57.1
Number of farmers	1444	641

* Those columns total more than 100 percent as some farmers reported that they were unable to obtain more than one item.

be larger than 2.2 percent. Flows are common to most all farms, and for this item only 1.6 percent of the farmers were unsuccessful in getting repair parts. The survey indicates that a relatively high percentage of farmers had difficulty in getting repair parts for combines and binders. A smaller percentage had difficulties in getting repairs for various other machines and tools for preparing land and cultivating crops, and for planting and harvesting crops. Some indication of difficulties in getting parts for farm motor trucks was evident.

Fencing and Building Supplies. - Apparently about 85 percent of all farm respondents had no difficulty in getting the fencing and building materials they needed. This percentage includes those who did not try to buy supplies as well as those who were successful in getting what they requested (Table 2). Fencing materials were mentioned as being unobtainable by about ten percent of the respondents, roofing by 2.8 percent, and lumber by 2.4 percent of the farmers.

Equipment and other Supplies. - Here again, relatively few farmers reported that they were unable to get various hand tools and harness. Nine percent of the respondents did not get all of the tires, and only two percent did not get all of the gasoline they tried to buy. These percentages probably were considerably higher for those farmers who owned motor trucks and tractors (Table 3).

Mechanics' Services. - Only five percent of the farmers reported any difficulty in securing the services of mechanics, and less than half of these reported that they could not get service. The others reported difficulty in getting the desired service at the time it was wanted (Table 4).

2. Production Losses in 1943 due to Machinery Difficulties

The farm machinery and repair parts situation in 1943 undoubtedly caused many farmers concern and added to their problems in getting the production job done. When the answers from the farmers in this survey were all added up, the results were as follows:

90 percent reported no serious production losses on their farms
10 percent reported serious losses on their farm

The serious losses reported were the result of several causes, the most important of which was delayed crop harvest, especially for small grains and hay (Table 5). Late planting of crops and inadequate cultivation were also mentioned by a relatively large percentage of the farmers as causing serious crop losses.

Table 3. Equipment and other Supplies that Farmers were Unable to Buy in 1943

Item	Percentage of all Farmers	Percentage of Farmers Who were Unable to Buy Machinery, Repair Parts, Equipment and Supplies, and Mechanics' Services
	<u>Percent</u>	<u>Percent</u>
<u>Equipment and Supplies not Obtained:</u>		
Tires	9.0	19.3
Gasoline	2.0	4.4
Hand tools	.1	.2
Harness	.1	.4
Unidentified supplies	.1	1.6
Farmers who applied successfully or did not apply at all	<u>88.7</u> 100.0	<u>74.1</u> 100.0
Number of farmers	1444	641

Table 4. Farmers Who Had Difficulties in Obtaining Mechanics' Services

Difficulty	Percentage of all Farmers	Percentage of Farmers Who were Unable to Buy Machinery, Repair Parts, Equipment and Supplies, and Mechanics' Services
	<u>Percent</u>	<u>Percent</u>
Unable to get general mechanics' services	2.2	5
Delayed in getting service	2.7	6
No difficulty	<u>95.1</u> 100.0	<u>89</u> 100
Number of farmers	1444	641

Table 5. Serious Losses Experienced Because of Machinery Difficulties

Losses	Percentage of all Farmers Percent	Percentage of Farmers Experiencing Difficulties Percent *
<u>Harvesting Delayed</u>		
Small grains	2.2	22
Hay	1.9	19
Corn	.6	6
Oil crops	.6	6
Truck crops	.4	4
Crops not specified	.7	7
Crop planted late (or not at all)	1.0	10
Cultivation	.9	9
Custom work delayed	.4	4
Poor land preparation	.4	4
Crop lost	.4	4
Work delayed	.3	3
Production of some crop prevented, reduced or discouraged	.3	3
Crop hogged off instead of harvested	.2	2
Poor quality of crop - due to hurried work	.2	2
Lack of transportation	.2	2
Did not have serious losses	90.0	1
Number of farmers	1444	157

* This column totals more than 100 percent because some farmers reported more than one difficulty.

II. Custom Use of Machinery in 1943

More complete utilization of existing farm machinery through additional custom work has frequently been advocated as a method of alleviating the machinery shortage. Of the farmers included in this survey, about one in four did custom work for others with one or more machines last year (Table 6). Many more, or about three in five, had custom work done on their farms. Other methods of increasing the use of farm machinery include exchanging work among farmers, and loaning and borrowing machinery. These are much less important than custom work and exchanging is more prevalent than lending and borrowing machinery.

The tractor is probably the machine most frequently used and hired for custom work. This is because it provides power, motive and belt, for a large number of custom operations. Probably little custom field work is done with other than tractor operated machinery. Aside from tractors, combines were most frequently used by those farmers doing custom work for others; followed by grain binders, plows, mowers, and corn pickers. Those along with grain threshers were also high on the list of machines farmers hired. A great variety of other farm machines are used to a lesser extent for custom work. About 15 percent of the farmers hired hauling with a truck, whereas only about three percent did custom hauling for others. With few exceptions, a greater proportion of the farm implements having high values or those used only during short periods of the year for specific jobs are used for custom work as compared to the cheaper, more adaptable and more widely owned machines.

Two questions were asked regarding the extent and avoidability of crop losses because of machinery shortages on farms in the vicinity of the farmer being interviewed: "Did farmers around here have serious crop losses on account of lack of machinery? - and - Could those losses have been avoided through more custom work and exchange of machinery among farmers?". Over four-fifths of the farmers interviewed indicated that crop losses on surrounding farms resulting from machinery shortages were not serious (Table 7). About 13 percent felt that serious losses had occurred and over one-half of these felt that the losses could not have been avoided through more custom work and exchange of machinery among farmers (Table 8). This group constitutes seven percent of all farmers included in the survey. Six percent of all farmers indicated that the losses could have been avoided through more custom work or exchange of machinery.

Several farmers gave their reaction as to why more custom work was not done to prevent crop losses (Table 9). It is significant that a high proportion of the farmers giving reasons listed insufficient machinery or labor. This group, however, represented less than ten percent of all farmers. Very few farmers felt that the custom plan doesn't work, that farmers aren't cooperative or that farmers aren't aware of custom work possibilities.

Table 6. Farmers Doing Custom Work and Hiring Custom Work Done in 1943

Item	Percentage of All Farmers Reporting	
	Percent	Percent
Doing custom work	24	
Hiring custom work done		61
Not doing custom work	76	
Not hiring custom work done		39
	<u>100</u>	<u>100</u>
Number of farmers *	1430	1430

* Data were not obtained from 14 farmers.

Table 7. Appraisal of Extent of Crop Losses in the Community Because of a Lack of Machinery in 1943 *

Item	Percentage of All Farmers Reporting
	Percent
Losses serious	13
No serious losses	83
Don't know	4
	<u>100</u>
Number of farmers**	1415

* Question: "Did farmers around here have serious crop losses on account of lack of machinery?"

** Data were not obtained from 29 farmers.

Table 8. Appraisal of Avoidability of Crop Losses in the Community Through More Custom Work and Exchange of Machinery *

Item	Percentage of all Farmers	Percentage of Farmers Feeling that Serious Losses Occurred
	Percent	Percent
Losses could have been avoided	6	40
Losses could not have been avoided	7	53
Don't know	1	7
No serious losses reported	86	-
	<u>100</u>	<u>100</u>
Number of farmers	1444	213

* Question: "Could these losses have been avoided through more custom work and exchange of machinery among farmers?" This question was asked only of those farmers who felt that serious losses had occurred.

Table 9. Reasons Why Serious Crop Losses were not Avoided by More Custom Work in Community *

Reason	Percentage of all Farmers Percent **	Percentage of Farmers Feeling that Serious Losses Occurred Percent **
Insufficient machinery available	7	45
Insufficient labor available	2	12
Owners busy, won't let others operate machinery	1	7
Everyone worked to capacity	1	7
Farmers are uncooperative	1	7
Bad weather	***	1
Farmers not aware of custom work possibilities	***	1
Repairs not available in time	***	3
Custom plan doesn't work	***	1
Don't know	***	2
No reason given	4	24
No serious losses reported	86	-
Number of farmers	1420 ****	213

* This question was asked only of those farmers who felt that serious losses had occurred.

** Totals more than 100 percent as some farmers mentioned more than one reason

*** Less than 0.5 percent

**** This question was not asked of 24 farmers of the 1444 in the sample because an unrevised schedule was used for this group.

III. Machinery Distribution

Farmers were asked to report as to whether they felt that the distribution of machinery, equipment, and repair parts was being handled in a fair way.

A majority of the 1444 farmers thought that the distribution methods employed were fair. Seventeen percent thought otherwise and 18 percent did not venture an opinion (Table 10).

Suggestions for improvement of the method of distribution were not very numerous. Of all farmers interviewed only 38 percent gave answers to this question. Seventeen percent said they didn't know and 21 percent gave definite answers. In the latter group, five percent suggested that more machines be built and three percent said "be impartial in making allotments". Other suggestions included: check validity of priority claims, give priorities only to farmers producing their full quota, cut red tape, make better provisions for smaller farmers, distribute used machinery better, and withdraw Government regulations.

As most farmers are not in a position to know the details concerning the problems involved in a farm machinery rationing program, it is not surprising that only a limited number gave definite answers to this question. In 1943, production and distribution factors necessitated rationing and distribution controls over ninety-one types of farm machinery. This year, 1944, better production and distribution conditions resulted in reducing the number of types of machinery over which distribution controls are maintained to only thirty-nine types, and over which rationing controls are maintained to only thirty-one types. For the 1945 program it is proposed that distribution controls be lessened still more.

Table 10. Appraisal of Fairness in Distribution of Machinery*

<u>Appraisal</u>	<u>Percentage of All Farmers</u>
Distribution is fair	65
Distribution is unfair	17
No opinion	18
	<u>100</u>
Number of farmers	1444

* Question: "Do you feel that the distribution of machinery, equipment and repair parts is being handled in a fair way?"

IV. Anticipated Difficulties in 1944

The proportion of farmers who expect to encounter machinery difficulties of one kind or another during 1944 is about 20 percent. Seventy-four percent expect no difficulties, and six percent were not sure enough to express an opinion. Of those farmers who anticipated difficulties, by far the larger percentage expect the difficulties to be shortages of combines, tractors and tractor parts, inability to arrange for custom combining of grain, and poor condition of farm trucks due to age and wear.

The 1944 Combine Program calls for the manufacture of 45,000 units. This is about 103 percent of the 1940 production. Although the program for the smaller combines is somewhat lower than in 1940, the program for combines over six feet in size is nearly three times larger than in 1940. Manufacturers are experiencing considerable difficulty because of manpower shortages and delay in getting components. Production is somewhat behind schedule and the indications are that some of the combines, particularly engine driven models, will not be produced in time for use this season. However, it seems reasonable to expect that farmers will have more combines for use in the 1944 harvest than they had for the 1943 harvest.

The wheel tractor quota for the current year amounts to approximately 155,000 units. This is about 70 percent of the 1940 output. Although many of the bearings, forgings, engine blocks, carburetors, magnetos and similar parts that enter into the construction of a tractor are the same type of components that are used in army tanks, trucks and other war equipment, it is probable that the quota for wheel tractors will be reached. This is considerably more than enough for replacement needs.

As there is no restriction on the production of repair parts in 1944, it is possible that farmers expect more difficulties in this respect than the situation warrants. Repair parts are expected to be available in ample quantities with the possible exception of a few of the critical component types.

Although motor truck production for civilian use in 1944 is scheduled at four times that of 1943, it is still only a small part of a normal year's production. Furthermore, this small supply must be divided among farmers and other civilian claimant groups. The success of farmers in pooling farm machinery and trucks in 1943 suggests a partial solution of farm-to-market hauling in 1944.

1. Expected Effect of Machinery Shortages on 1944 Production Plans

Farmers' production expectations as influenced by machinery difficulties are shown in Table 11. In spite of machinery restrictions

most farmers exhibited an optimistic attitude concerning their ability to maintain production in 1944 at the high level of 1943. Eighty-seven percent felt that machinery shortages would not hold down production on their farms, while nine percent thought they would. Four percent did not venture an opinion.

Table 11. Effect of Machinery Problems
on Production Plans in 1944 *

Machinery Problems are:	Percentage of All Farmers
	Percent
Holding down production	9
Not holding down production	87
Uncertain	4
	<u>100</u>
Number of farmers	1444

* Question: "Are you holding down any part of your farm production for this year on account of machinery and equipment problems?"

Of the number who thought that production was being held down because of machinery difficulties, the larger percentage was of the opinion that corn and small grains would be most affected. A few producers of hay crops felt some concern over getting their hay harvested with machinery available. Some felt that acreages as large as those of 1943 of soybeans, peanuts, cotton, and flax might be difficult to handle in 1944, unless more machinery could be gotten. A few chicken and egg producers felt the need for more equipment if they are to maintain production.

2. Farmers' Expectations for More Machinery

Slightly less than 50 percent of all respondents were of the opinion that the supply of new machines and repair parts in 1944 would be greater than in 1943. Approximately 25 percent thought that it could be about the same, and ten percent expected the supply to be smaller than in 1943. Fifteen percent did not venture an opinion. These expectations are closely in line with anticipated difficulties in meeting required production in 1944.

A comparison of the authorized machinery production, expressed as a percentage of that produced in 1940 shows that the over-all authorized production for the crop year 1943 was 46 percent of 1940 production compared with an authorized production for the 1944 crop year that is 87 percent of 1940 production.